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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,043	02/27/2004	Darrell L. Wertz	18135	8326

7590 10/07/2005
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EXAMINER

ZARROLI, MICHAEL C

ART UNIT	PAPER NUMBER
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2839

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,043

Applicant(s)

WERTZ ET AL.

Examiner

Michael C. Zarroli

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 7-13 and 18-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6 rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bali et al (US6881073).

Bali discloses an LGA interconnect (pp0030 next to last sentence), for interconnection to further electrical components (paragraph 0001 last sentence), said LGA interconnect comprising a substrate ("interposer assembly 100" which includes 120, see also for example fig. 4) and a plurality of contact assemblies (128 and others) positioned and retained to said substrate (paragraph 32 last 2 sent.) for connection with said electrical components, and further comprising alignment members (230, 232) projecting from said substrate for aligning said substrate relative to at least one of the electrical components (fig. 1).

Regarding claim 2 Bali discloses that each said contact assembly comprises a first contact extending from a first side of said substrate and a second contact extending from a second side of said substrate (figures 6 or 7), said first and second contacts defining an array of contacts.

Regarding claim 3 Bali discloses that a frame housing (202) surrounds said array of contacts.

Regarding claim 4 Bali discloses that the alignment members are comprised of pins (230).

Regarding claim 5 Bali discloses that said pins extend through said frame housing for registration directly to one of said electrical components (figures 13 or 14).

Regarding claim 6 Bali discloses (fig. 2) that said pins 230 are discrete members attached (fig. 13) at diametrically opposite positions of the substrate (fig. 2 for example shows 2 pins at diametrically opposed corners).

3. Claims 14-17 rejected under 35 U.S.C. 102(b) as being clearly anticipated by DelPrete et al.

DelPrete discloses an LGA interconnect (col. 1 line 5+), for interconnection to further electrical components (fig. 1), said LGA interconnect comprising: a substrate (FIG. 2A) having an upper surface (52) and a lower surface (42), marginal side edges (fig. 2A), and an array of contact receiving openings (54, 44)

therein; a plurality of contact assemblies (50, 46) positioned and retained in said substrate (e.g. fig. 3A), with a first contact portion positioned above said upper surface and a second contact positioned below said lower surface, said plurality of contacts defining an array of contacts (fig. 3E); a frame housing (16 or 32) positioned around a periphery of said substrate; and alignment members (fig. 1 screws and receiving apertures, see also figures 7 & 8 plus fig. 8A) projecting from said substrate for aligning said substrate relative to at least one of the electrical components.

Regarding claim 15 DelPrete discloses that said alignment members are comprised of pins (fig. 1 screws).

Regarding claim 16 DelPrete discloses that said pins extend through said frame housing for registration directly to said electrical component (fig. 1 dashed lines).

Regarding claim 17 DelPrete discloses (fig. 8A) that said pins are discrete members (screws) attached at diametrically opposite positions of said substrate (screws are at corners therefore diametrically opposed).

Allowable Subject Matter

4. Claims 7-13 and, 18-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter in claims 7 and 18: In combination with the claims on which they depend, the frame housing that can float. A reason for allowance of the other claims was given in the previous office action.

Response to Arguments

6. Applicant's arguments filed 8/18/05 have been fully considered but they are not persuasive.

The examiner has added additional reference numbers and explanation to his art rejections to better highlight the parts of the art he is applying to the claimed invention.

The examiner has also included on the next page a dictionary definition of "substrate."

Applicant argues that Bali does not disclose a substrate with alignment members. The term substrate is a ubiquitous term for which one of ordinary skill

in the art would apply a broad meaning see dictionary definition. Examiners must read **claim language** broadly and reasonably. Claims must be interpreted as broadly (using plain meaning MPEP 2111.01) as their terms reasonably allow, unless: a) a special definition is clearly set forth in the specification and/or b) language invokes 35 USC 112, sixth paragraph. Nowhere in any of the claims does the applicant further limit the term substrate. This term is introduced in the second line of claim 1 with simply “LGA interconnect comprising a substrate...”

With this broad term in mind the examiner interprets Bali as disclosing a substrate comprising some of the components that makeup the interposer assembly 100 (besides figure 1, figures 3-7). These figures also show projecting alignment members. Remember, an examiner must never import meaning for a term from the specification.

Applicant argues that DelPrete does not disclose alignment members projecting from a substrate. Reading the claims broadly and without importing limitations from the specification the examiner sees in figures 1, 7, 8 & 8a alignment members (screws) projecting from the substrate. Alignment members that project through the substrate are also read to be projecting from the substrate. Examiner notes that applicant drawings show alignment members that project through the substrate.

The applicant argues that neither Bali et al nor DelPrete et al disclose discrete pins attached at diametrically opposed positions of the substrate. Please see the rejections for these claims above where the examiner has more definitively earmarked his rejection.

7. Applicant's arguments with respect to claims 7 and 18 have been fully considered and are persuasive. The obviousness rejection has been withdrawn.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

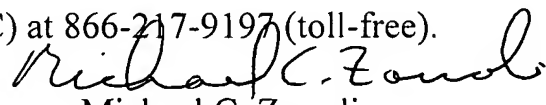
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The new art identified on the attached PTO-892 all disclose alignment devices that project from a substrate.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Zarroli whose telephone number is 571-272-2101. The examiner can normally be reached on 7:30 to 3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, T.C. Patel can be reached on (571) 272-2800 ext 39. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael C. Zarroli
Primary Examiner
Art Unit 2839

MCZ
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